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A DOLPHIN STORY

イルカの海

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HOUSING

制作協力スタッフ

Dr. Katherine Muzik(キャサリン ミュージック)

米海洋学者／サンゴに関する専門家で海洋科学誌や子どもの為の絵本などを手がける。ハイビジョンソフト“*A Coral Story*”を監修。海に関する様々な出来事を、子供から大人までの不特定多数の人々に分かりやすく紹介。前作“*A Coral Story*”に続き、監修を依頼。

Mr. Jan Östman(ヤン オットマン)

米カリフォルニア大学海洋学研究員／現在ハワイ島コナに於いて、野性のハシナガイルカの生態を観察・研究。主に個体識別を行い、特定グループの行動パターンを分析。この企画の制作意図を理解頂き、撮影及び解説の協力を依頼。

Ms. Ania Driscoll(アニア ドリスコル)

米カリフォルニア大学海洋学研究員／現在ハワイ島コナに於いて、野性のハシナガイルカの生態を観察・研究。主に野生のイルカの発聲音を収録、コミュニケーション方法を分析。この企画の制作意図を理解頂き、撮影及び解説の協力を依頼。

HDVS水中ハウジングによるイルカの撮影

世界の水族館の人気者と言えば、まずイルカが第一に挙げられるでしょう。このイルカの人気を盛り上げている要因には、その愛くるしい表情と様々な仕草、そして古くから伝説等で語り継がれ、今なお時折トピックスとして報道される人との友情物語を挙げる事ができます。

一般に私達が知るイルカとは大変好奇心が強く、人と友好的な海洋哺乳動物だと言うことです。大海を楽しげに自由に泳ぎ回る様も私達には羨ましく、自由の象徴と呼ばれる所以でしょう。この様に一般的に認識されるイルカとは、実際に色々な芸をする水族館のイルカや様々なイメージとして伝えられる“海からの使者”であると言えます。しかし、おそらく私達の殆どがすぐに想像できるあの水面上のイルカのすがたは、実際の彼らの生活（水中）の1割にも満たないのではないかでしょうか。知能が高く社会構造を持ち、互いに複雑なコミュニケーションを行ふとされるイルカ達の、大海での本当の生活とはいったいどの様なものなのでしょう。

この地球の面積の約7割を占める海の中を、実際に体感し見て見事ができるのはダイビングライセンスを持ったダイバーや海洋学者等ごく一部の人達に限られています。

ハイビジョンカメラでこの海の水中撮影を行い、私達の知らない野性のイルカをとらえる事ができたら――。

この企画はこうした思いから始まりました。

Jan Östman氏の活動は、Hawaiian Spinner Dolphinの生態研究が主で、マグロ漁等に関わる漁業とイルカの様々な問題を解決するため現在はHawaiian Spinner Dolphinの個体識別を行い、その行動パターンを研究しています。

この種の問題を扱うのは大変難しく、人類にとっての食糧である魚とそうでないイルカの混獲、イルカによる網の被害、無意味とされるイルカの死、等一言では説明できない問題であるのは、他の環境問題と同様であると言えます。しかし、こうした様々な研究者による地味で根気のいる研究作業で、いずれ明るい解決策が見つかる事を願ってやみません。

さて、いよいよ撮影の段階ですが他の野性動物同様、イルカもそう簡単には我々を近づけてはくれません。本来なら何年もかかる作業です。

そこで時間に限りのある我々は、次の様に撮影作業を進めました。

船そのものには警戒心のうすいイルカですから、いきなり水中カメラマンが彼らを追うのではなく、先ず船底に水中カメラを取り付け、イルカの群れと一緒に泳ぐと言うものです。勿論これは事

前に準備しましたが、船と水中ハウジングをつなぐアルミフレームを作成しました。イルカの群れと一緒に泳ぐ船の平均速度5～10ノット、その際抵抗としてかかる水中ハウジングの体積・重量等のデータから直径5cmのアルミパイプの溶接によるフレームが必要とされ、また船により船底の形状は異なるので、この作業は現地で行いフレームは10日で完成されました。

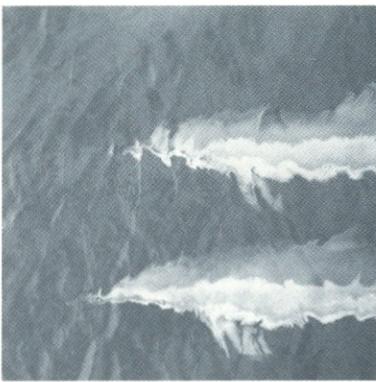
毎日の作業手順は、おおよそ次の様なものです。

1. フレームを付けずに撮影ポイントに船で移動、この間にカメラ調整
2. イルカの群れから離れた所でフレームを船にセット
3. 続いて水中ハウジングをフレームにセット
4. イルカの群れに近づき撮影開始

書いてしまえば単純な作業工程ですが、イルカ達の集まっている場所や時間、イルカ達と保つべき距離、彼らの嫌がる行動等、短期間に把握すべきこれらのルールも大変重要な要素である事は言うまでもありません。

また、この時期はHawaiian Spinner Dolphinの子育てや交尾の季節もあり、一般には知られていないこうした行動もこの期間に収録できました。

前述の通り、私達の知っているイルカとは殆ど水族館で見られるもので、今回ハイビジョンで収録された、これらの野性のイルカの様々な行動は大変興味深いものだと思います。野性動物独特な敏捷な動きと環境に適した体のフォルム、社会構造の存在を感じさせる群れの行動、我々の船と遊んでいるかの様な興味深い行動等、美しい海とそこに生きるイルカ達の真実を垣間見ることができました。



Consultation & cooperation

Dr. Katherine Muzik

U.S. marine biologist, specializing in coral; associate of Harvard University; author of scientific reports and children's books about the sea.

Director of "A CORAL STORY" (High definition video)

Children and adults alike are entertained and educated by Katherine's wonderful accounts of life in the ocean. Her work extends to the video medium, and having worked on A Coral Story she was invited to direct the present work.

Mr. Jan Östman

Marine biology researcher at the University of California, Santa Cruz; currently studying the ecology of wild spinner dolphins off the Kona coast of Hawaii. Concentrating on identifying individual dolphins, he is analyzing the behavior patterns of specific groups.

Jan served as a consultant during the preparation and shooting of A DOLPHIN STORY.

Ms. Ania Driscoll

Marine biology researcher at the University of California, Santa Cruz; currently studying the ecology of wild spinner dolphins off the Kona coast of Hawaii. She records the sounds emitted by dolphins in nature and analyzes the ways in which they communicate.

Ania served as a consultant during the preparation and shooting of A DOLPHIN STORY.

Underwater HDVS shooting of dolphins from a boat

At oceanariums around the world it is the dolphin that enjoys the greatest popularity. Among the reasons for this one can cite their lovable "smile" and playful antics. Of course, there is also their ability to form friendships with human beings, and tales of this type are common in folklore and legends of the past, as well as in the modern media.

The dolphin which we are familiar with is a marine mammal that displays a highly developed curiosity and gets on very well with man. No doubt we all envy the way dolphins swim so effortlessly and with such apparent joy, ranging far and wide through the oceans. This, presumably, is the reason why they have become a symbol of freedom.

In fact, our dolphin is a composite of images, including the talented performer and the fabled "envoy from the sea". Not surprisingly, the dolphin that immediately comes to mind is not representative, for we see less than ten percent of its life underwater. This is one of Nature's mysteries. How do these highly intelligent and social mammals — which can communicate with each other in a very sophisticated way — really live?

Only a few fortunate people — divers and oceanographers, for example — are able to witness for themselves the life of the oceans that cover approximately seventy percent of the earth's surface. But a camera can go where we cannot. If only we could "capture" dolphins in the wild on high-definition HDVS videotape... It was thus that our project was hatched.

Jan Östman is mainly involved in studying the ecology of the Hawaiian spinner dolphin. In order to resolve the many problems surrounding dolphins and the fishing industry, particularly tuna fishing, Jan is currently working on the identification of individual Hawaiian spinner dolphins and studying their behavior patterns.

Dealing with problems of this nature is extremely difficult. No simple solution can be found that will take into proper account the accidental killing of dolphins with the fish on which mankind depends for food, and the damage dolphins cause to the nets. In this sense, the dolphin problem is as complex as other environmental problems. Nevertheless, we must hope that the patient work carried out by marine researchers will eventually be rewarded and a satisfactory solution found.

The project matured and the time came to begin shooting. As is the case with other wild animals, it is not easy to lure dolphins into close proximity with humans. In fact, it is something that can take several years to achieve. But since time was limited we adopted a novel approach, involving special underwater equipment.

Since dolphins are relatively accustomed to boats, we decided that, instead of sending down an underwater

cameraman to chase them with uncertain results, we would affix an underwater camera to the hull of a boat and cruise along with schools of dolphins. This meant we had to construct an aluminum frame to connect the underwater camera housing to the boat. The average speed of a boat cruising along with a school of dolphins is 5 to 10 knots; taking into account the resistance of the water at such speeds together with the volume and weight of the housing, it was calculated that the frame had to be made from 5cm-diameter aluminum pipes, welded together. And since different boats have differently shaped hulls, this work had to be done in Hawaii. It took four days to complete the frame. Our daily routine was as follows:

1. Travel by boat (without frame attached) to the shooting location. This time was usefully employed in adjusting the camera.
2. Affix the frame to the boat, moored away from any dolphins.
3. Attach the underwater housing to the frame.
4. Approach the dolphins and commence shooting.

The work itself was quite simple and straightforward, but of course there was much to learn in a short time — where and when the dolphins congregate, the correct distance to maintain between them and the boat, their likes and dislikes, etc. This sort of know-how is essential to the success of such a project. We were fortunate, however, in shooting at the time of year when the Hawaiian spinner dolphins mate and raise their young, a part of their life which we know so little about.

It is because we are familiar only with dolphins in oceanariums that this HDVS record of the life of wild dolphins is as fascinating as it is invaluable. Wild animals everywhere display an astonishing agility, their bodies and movements perfectly attuned to their environment, and this is especially true of dolphins. In addition, observation of the way they act in groups strongly suggests some sort of social organization. And it is easy to believe that they are playing with us, as they frolic about our ungainly boats. This video provides everyone with a unique glimpse at the true life of dolphins and the beautiful sea they inhabit.

Spinner Dolphin(ハシナガイルカ)

〈分布〉世界中の熱帯・亜熱帯の遠海に生息。普通沿岸には回遊しないが、ハワイ諸島等には多く分布し、最近学術研究がなされている。一部地域では主にマグロの巻網漁が盛んで、マグロがこの種のイルカと頻繁に遊泳しているため、混獲の問題が最近クローズアップされている。通常、数十頭から時には千頭を越える群れをつくり、活発に回遊している。日本沿岸及び沖合では紀州以南での生息が確認されておりまた小笠原沿岸にも最近確認されているが、詳しい研究はまだされていない。

〈形態と特徴〉体長は1.5m~2.2m。イルカの他種と比べると体型は細長く、背びれは前方に張り出している三角形である。体色は生息地域により差があるらしいが、背部の黒灰色、側面の明るい淡褐色、腹部の白色が大凡の基本パターンである。全体に体型はマイルカに似ているが、特にくちばしが細く長いので他種と区別が容易である。ハワイ島での調査によると、毎年10月~12月が交尾期であり、受精後約10ヶ月で出生し、6~9歳で性成熟する。平均的な体重は約60kg。野性本能が強く、捕獲しても飼育・調教は困難とされている。遊泳しているとき、頻繁に海面から高く跳躍し、さりげなく回転して着水することから英名スピナードルフィン(Spinning)とされる。

Bottlenose Dolphin(バンドウイルカ)

〈分布〉広く温帯性の海域全般に分布が認められ、一般にイルカといわれるところをさす場合が多い。百頭程の群れての行動が主とされるが、2~3頭の親子と見られるグループでの行動も観察されている。

日本に於ける回遊性のものは、冬には東海以南、夏には北海道以南に分布する。

〈形態と特徴〉体長は2.5m~3.5mと大型の種で、くちばしは太く短い。背びれは大きく鏝形をなし、ほぼ全身灰黒色で腹部が灰白色である。大きさからオキゴンドウやシワハイルカと見間違うことがあるが、背びれの形とくちばしの有無で区別が可能。通常受精後約12ヶ月で出生し、5~12歳で性成熟する。

Spinner Dolphin (*Stenella longirostris*)

Habitat Spinner dolphins are found in tropical and subtropical waters around the world. They are pelagic, or open ocean dolphins, not normally found close to shore. This makes them hard to study, except where they do come close to islands or atolls, such as Hawaii. Another source of information about them, unfortunately, comes from offshore fishing for yellow fin tuna. Spinner dolphins frequently associate with the tuna that the fishermen are seeking. Recently attention has been focused on the accidental death of dolphins trapped in the nets. They range widely through their habitat, travelling in schools of anything from twenty to a thousand or more individuals. In Japan's coastal and offshore waters, spinner dolphins have been seen as far north as the Kishu region, and specimens have been spotted off the Ogasawara (Bonin) Islands. Detailed studies, however, have yet to be made.

Morphology and characteristics The spinner dolphin is between 1.5 and 2.2 meters in length, more slender than other species, and with a triangular dorsal fin relatively close to its head. Body color can vary considerably depending on habitat; however, the basic pattern is dark gray above, light brown on the flanks, and white below. Overall its shape is not unlike that of the so-called true dolphin, but its long snout ensures that it can be easily distinguished from other species.

According to a survey conducted in the Hawaiian islands, the mating season of the spinner dolphin is between October and November every year, and the gestation period

is about 10 months. They reach sexual maturity after 6 to 9 years, and an adult weighs approximately sixty kilograms. It is difficult to breed them in captivity or train them, as they are essentially wild at heart.

The name "spinner dolphin" comes from the fact that, in the open sea, they will often jump high out of the water and dive back in a characteristic spinning barrel roll.

Bottlenose Dolphin (*Tursiops truncatus*)

Habitat When people speak of dolphins they are usually referring to the bottlenose dolphin, made famous by "Flipper". Common throughout the warmer, temperate seas of the world, this species is generally observed in schools of about one hundred individuals. However, on occasion they are known to move about in very small groups of two or three — probably consisting of parent and offspring.

The migratory dolphins found around Japan are observed as far north as the Tokai region in winter and Hokkaido in summer.

Morphology and characteristics Bottlenose dolphins are large, ranging from 2.5 to 3.5 meters in length. Their beaklike snout is relatively broad, and the dorsal fin describes a low arc. Most of the body is grayish black, lightening to grayish white below. Because of their size bottlenose dolphins can be mistaken for false killer whale or rough-toothed dolphins, but one can tell them apart by looking at the shape of the dorsal fin and their beak. Gestation normally takes about 12 months, and sexual maturity is reached in 5 to 12 years.

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